

REMARKS

Favorable reconsideration of this application is respectfully requested in view of the following remarks.

At the outset, the undersigned expresses appreciation to Examiner Schwartz for his time and attention during the interview conducted at the U.S. Patent and Trademark office on October 20, 2004. The remarks below discuss the substance of the interview.

The discussions during the interview focused on the claimed hydraulic brake apparatus recited in Claim 1 relative to the disclosure set forth in U.S. Application Publication No. 2003/0020328 to *Kusano et al.* As pointed out, the claimed hydraulic brake apparatus comprises a pressure source which generates hydraulic pressure, a hydraulic pressure boosting device having a pressure regulating valve which regulates the hydraulic pressure generated by the pressure source in response to braking operation, a master cylinder for advancing a master piston by the hydraulic pressure discharged from the hydraulic pressure boosting device to discharge the hydraulic braking pressure from a master chamber, and a wheel brake cylinder operatively mounted on each vehicle wheel to apply braking force to the wheel with the hydraulic braking pressure discharged from the master cylinder. A pressure detecting means detects at least one of the hydraulic braking pressure discharged from the master cylinder and the hydraulic pressure discharged from the pressure regulating valve, and a pressure supply means supplies the hydraulic pressure from the pressure regulating valve into a hydraulic pressure circuit which includes the master cylinder and the wheel brake cylinder. The pressure supply means supplies the hydraulic pressure from the pressure regulating valve into such hydraulic

pressure circuit when the hydraulic braking pressure discharged from the master cylinder is equal to or greater than a predetermined starting reference pressure, which is set to be equal to or greater than hydraulic pressure corresponding to a predetermined vehicle deceleration, and/or when the hydraulic pressure discharged from the pressure regulating valve is approximately equal to or greater than the starting reference pressure.

During the interview, the undersigned discussed some shortcomings associated with other known brake systems as discussed in the background portion of the application, and described how the brake apparatus at issue here is not as susceptible to such difficulties. The undersigned explained how the pressure supply means (formed at least in part by the valve NC as discussed in the application) supplies the pressure from the regulating valve to the hydraulic circuit when it is determined that the hydraulic braking pressure (P_{mc}) discharged from the master cylinder is equal to or greater than the predetermined starting reference pressure and/or when it is determined that the when the hydraulic pressure (P_{rg}) discharged from the pressure regulating valve pressure is equal to or greater than the predetermined starting reference pressure. As explained during the interview, this starting reference pressure is set to be equal to or greater than the hydraulic pressure corresponding to a predetermined vehicle deceleration.

The Official Action notes that the pump 42 disclosed in *Kusano et al* corresponds to the claimed pressure supply means. However, as explained during the interview, the pump 42 disclosed in the *Kusano et al* is not a pressure supply means that supplies the hydraulic pressure from the pressure regulating valve 6 into a hydraulic pressure circuit which includes the master cylinder and the wheel brake

cylinder. The pump 42 merely delivers pressurized fluid to the regulating valve 6 (chamber C1), but does not supply the hydraulic pressure from the pressure regulating valve into a hydraulic pressure circuit which includes the master cylinder and the wheel brake cylinder. Examiner Schwartz noted that the pump 42 delivers hydraulic fluid pressure to the regulating valve 6 which regulates the pressure, and that the regulated pressure is applied as a hydraulic pressure to the chamber CO2 which is eventually applied to the wheel cylinders. Examiner Schwartz thus indicated that the pump 42 could be said to supply the fluid from the regulating valve 6 to a hydraulic circuit that includes the master cylinder and the wheel cylinder.

The undersigned also noted during the interview the language in Claim 1 reciting when the pressure supply means supplies the hydraulic pressure from the pressure regulating valve to the hydraulic circuit – i.e., when the hydraulic braking pressure discharged from the master cylinder is equal to or greater than a predetermined starting reference pressure (which is equal to or greater than hydraulic pressure corresponding to a predetermined vehicle deceleration) and/or when the hydraulic pressure discharged from the pressure regulating valve is approximately equal to or greater than the starting reference pressure. *Kusano et al* does not disclose the claimed relationship between the predetermined starting reference pressure and the hydraulic pressure corresponding to the predetermined vehicle deceleration. Examiner Schwartz noted the brake operating amount detecting means (paragraph [0026]) disclosed in *Kusano et al* which detects the operating amount of the brake pedal. Examiner Schwartz pointed out that the amount of operation of the brake pedal might be said to be related to vehicle deceleration and so because the system described in the *Kusano et al* determines

the brake operating amount, the system can also be said to disclose a relationship between hydraulic pressure and vehicle deceleration.

Taking into account the interpretations noted above, Claim 1 has been amended to recite that the pressure supply means is positioned downstream of the pressure regulating valve. Also, Claim 1 has been reworded to recite that the pressure supply means permits the hydraulic pressure discharged from the pressure regulating valve to be supplied into a hydraulic pressure circuit that includes the master cylinder and the wheel brake cylinder. The changes to Claim 1 have been made to better set forth differences between the brake apparatus at issue here and the system described in *Kusano et al.*

The language added to Claim 1 reciting the position of the pressure supply means downstream of the pressure regulating valve clearly distinguishes over the system described in *Kusano et al.* Noting that the pump 42 described in *Kusano et al.* has been interpreted as corresponding to the claimed pressure supply means, the pump 42 is not located downstream of the valve 6. Also, the pump 42 does not permit the hydraulic pressure discharged from the pressure regulating valve to be supplied into a hydraulic pressure circuit that includes the master cylinder and the wheel brake cylinder.

In addition, it would not have been obvious to provide a pressure supply means positioned downstream of the pressure regulating valve. During the interview, Examiner Schwartz noted that one of the other cited documents discloses various valves positioned between a master cylinder and wheel brake cylinders. However, that such document may disclose a valve so positioned would not have directed one to modify the system described in *Kusano et al.* to include a pressure

supply means which permits the hydraulic pressure discharged from a pressure regulating valve to be supplied into a hydraulic pressure circuit that includes the master cylinder and the wheel brake cylinder when the hydraulic braking pressure discharged from the master cylinder is equal to or greater than a predetermined starting reference pressure (which is set to be equal to or greater than hydraulic pressure corresponding to a predetermined vehicle deceleration) and/or when the hydraulic pressure discharged from the pressure regulating valve is approximately equal to or greater than the starting reference pressure.

It is respectfully submitted that independent Claim 1 is patentably distinguishable over the disclosure in *Kusano et al.*

The dependent claims define additional distinguishing aspects of the claimed brake apparatus,. For example, Claims 3 and 4 define the first and second switching valves, define the position of those valves and set forth operational characteristics of the switching valves. The Official Action notes the disclosure of various switching valves in U.S. Patent No. 6,095,622 to *Oishi et al.* However, *Oishi et al* does not disclose switching valves which operate in the claimed manner and which are positioned relative to other parts of the brake apparatus as claimed.

In the event the Examiner continues to believe the disclosure in *Oishi et al* is relevant to the claimed subject matter recited in Claims 3 and 4, and the other dependent claims, the Examiner is kindly asked to explain how the modified brake system embodies each of the features recited in the dependent claims.

Early and favorable action with respect to this application is earnestly solicited.

Should any questions arise in connection with this application or should the Examiner believe that a telephone conference with the undersigned would be helpful in resolving any remaining issues pertaining to this application, the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

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By: Matthew L. Schneider
Matthew L. Schneider
Registration No. 32,814

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620